

REMARKS

Summary of the Office Action

Claims 1-19 are considered in the Office action.

Claims 1-2 and 11-12 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe U.S. Patent No. 4,831,458 (“Watanabe”) in view of Lehman et al. U.S. Patent No. 5,237,172 (“Lehman”).

Claims 3 and 13 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman and Falk U.S. Patent No. 6,141,120 (“Falk”).

Claims 4-5 and 14-15 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman and “well known prior art.”

Claims 6 and 16 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman, Horowitz et al U.S. Patent No. 4,525,071 (“Horowitz”) and Gray et al U.S. Patent No. 6,028,681 (“Gray”).

Claims 7 and 17 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman, Horowitz, Gray and “well known prior art.”

Claims 8 and 18 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman and Horowitz.

Claims 9 and 19 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman and Gray.

Claim 10 has been rejected under 35 U.S.C. § 103(a) as obvious over Claims 8 and 18 have been rejected under 35 U.S.C. § 103(a) as obvious over Watanabe, Lehman, Horowitz and “well known prior art.”

Reply to Rejections Under 35 U.S.C. § 102(b)

The claimed invention recites methods and apparatus for selectively calibrating a scanner during a normal scan. In particular, the claimed methods include affixing a calibration target to a scanning surface of the scanner, and selectively calibrating the scanner with the calibration target during a normal scan. The claimed apparatus include a calibration target, means for attaching the calibration target proximate to a scanning surface of the scanner, and means for selectively calibrating the

scanner with the calibration target during a normal scan. The cited references do not describe or suggest the claimed invention.

Instead, Watanabe describes a color copying machine that includes an apparatus main body 1, scanner apparatus 2, original cover 3, image formation portion 5 and operation panel 6. (Col. 3, lines 43-64; FIG. 2). Scanner apparatus 2 includes original table 4, carriage 21, amplifiers 26a-26d, analog-to-digital ("A/D") converter 108, analog switch 27 and shading correction circuit 102. (Col. 4, lines 7-11; Col. 4, lines 22-37; FIGS. 1 and 3). Amplifiers 26a-26d are coupled to external variable resistors GVRa-GVRd, respectively, and OVRa-OVRd, respectively. (Col. 9, lines 20-23; FIG. 1). Carriage 21 includes light source 23, rod lens array 24 and photoelectric converter 25, which includes CCDs 25a-25d. (Col. 4, lines 12-16). Operation portion 6 includes various keys 7, 41-43 and 49, displays 30a-30e, 31a-31e, 44 and 48, and set portions 45-47. (Col. 4, lines 38-64)

Watanabe's color copying machine operate in either a normal mode or an adjustment mode. (Col. 4, line 65 through Col. 5, line 4; Col. 9, lines 24-30; FIG. 1). In normal mode, the various keys 41-43 and other elements of operation portion 6 may be used to specify the number of prints, stop printing, display the number of prints, set ground color, color density and color tone, select image type modes and perform or display other functions and features. (Col. 4, line 65 through Col. 5, line 4). In contrast, in adjustment mode, keys 41-43 and other elements of operation portion 6 perform or display functions and features related to adjusting offset voltages and gain of amplifiers 26a-26d, and optical axis and focus adjustments of CCDs 25a-25d. (Col. 5, line 5 through Col. 6, line 37). In particular, during the adjustment mode, a white reference plate 28 is repeatedly scanned, with light source 23 variously turned ON and OFF, while the values of external variable resistors OVRa-OVRd, GVRa-GVRd, the positions of CCDs 25a-25d and the distance between the surface of table 4 and rod lens array 24 are adjusted. (Col. 9, line 36 through Col. 12, line 60).

Unlike the claimed invention, Watanabe does not describe or suggest methods or apparatus that selectively calibrate a scanner during a normal scan. Indeed, Watanabe only describes a calibration process that occurs while the copier is specifically set in an adjustment mode (as opposed to a normal mode). Further, because of the various repeated physical and electrical modifications being performed to external

variable resistors OVRa-OVRd and GVRa-GVRd, and CCDs 25a-25d during the adjustment process, it seemingly would be impossible to perform the calibration during a normal scan. As a result, Watanabe actually points away from the claimed invention by describing a system in which calibration only may be performed when the copier is not performing a normal scan.

Lehman describes a rotary color scanner system in which two distinct system calibrations are performed: the first occurring at the start of each scan, prior to scanning a document, and the second being performed during document scanning at the beginning of each scan line. (Col. 2, lines 40-68; Col. 8, lines 49-53). In particular, during document scanning, required calibration adjustments are made for each line to maintain color balance control that is critical to fine color work. (Col. 11, lines 17-48; Col. 11, lines 58-62). Thus, unlike the present invention, Lehman does not describe or suggest methods or apparatus that selectively calibrate a scanner during a normal scan. Instead, Lehman describes a scanning system in which calibration during normal scanning seemingly is mandatory. As a result, Lehman also points away from the claimed invention.

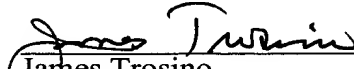
Further, the combination of Watanabe and Lehman, even if possible, would not produce the claimed invention. Watanabe describes a color copier in which scanner calibration cannot be performed during a normal scan, whereas Lehman describes a scanner system in which calibration must be performed during a normal scan. Thus, the two references are so diametrically opposed that they are incapable of being combined.

Accordingly, because neither Watanabe nor Lehman, alone or combined, describe or suggest the claimed invention, applicant respectfully requests that the § 103(a) rejections of independent claims 1 and 11 be withdrawn. Because all other claims depend from claims 1 and 11, applicant respectfully requests that the § 103(a) rejections of claims 1-19 be withdrawn.

Conclusion

For the reasons stated above, applicant submits that this application, including claims 1-19, is allowable. Applicant therefore respectfully requests that the Examiner allow this application.

Respectfully submitted,



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